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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,969	03/27/2001	Shoji Kotani	15162/03460	9858

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EXAMINER

SCHECHTER, ANDREW M

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 08/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/818,969

Applicant(s)

KOTANI ET AL.

Examiner

Andrew Schechter

Art Unit

2871

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 4 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 7, 8, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by *Naito*, U.S. Patent No. 5,869,420.

Naito discloses a method for recording an image on a thermosensible image bearing medium that contains liquid crystal material exhibiting a cholesteric phase at a temperature range higher than room temperature [abstract, col. 13, line 24 - col. 18, line 8, especially col. 16, lines 65-67], the method comprising the steps of: (a) heating the material at a first temperature for a first time period by applying a first energy (with a thermal head set at 12V, determining the temperature, for 0.8 milliseconds, which together define the first energy – col. 25, lines 7-12), and (b) heating the material at a second temperature for a second time period by applying a second energy (with a thermal head set at 10V, determining the temperature, for 1.5 milliseconds, which together define the second energy – col. 25, lines 14-18), where the first temperature is larger than the second temperature, since 12V is larger than 10V, and the first time period 0.8 ms is shorter than the second time period 1.5 ms. Claim 1 is therefore anticipated.

Naito describes the two steps being repeated through 100 cycles [col. 25, line 25], so the recording process described includes both step (a) before step (b) and step (a) after step (b), so claims 2 and 3 are also anticipated. *Naito's* use of a thermal head [col. 25, line 8] implies the inherent step of generating first and second signals (to control the action of the thermal head) based on image data, respectively reproducing first and second colors (blue and white), and the applications of the first and second energies are executed by driving a writing head based on the signals; claims 5 and 11 are therefore anticipated. The signals have a waveform comprising at least one pulse, and the pulses determine the first and second time periods, so claims 7 and 8 are also anticipated. *Naito* discloses that, in place of the thermal head, a laser optical unit and photothermal converter ("a light absorbing layer having an absorption band in the wavelength of the laser beam") can be used [col. 24, lines 18-33]; claim 10 is therefore anticipated. *Naito* also discloses the step of quenching the medium after the steps of (a) and (b) [col. 5, lines 35-53], so claim 12 is anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Naito*, U.S. Patent No. 5,869,420 as applied to claims 1-3, 5, 7, 8, and 10-12 above, in view of *Weaver et al.*, U.S. Patent No. 5,922,528.

Naito discloses determining the time periods by the pulse widths of the applied energies, rather than by the number of pulses. *Weaver* discloses an analogous thermal imaging process, and teaches that "[i]n a particularly useful embodiment the pulses are of fixed voltage and duration and the thermal energy delivered is then controlled by the number of such pulses sent" [col. 1, lines 25-28]. It would therefore have been obvious to one of ordinary skill in the art to determine the time periods (and hence the amount of energy) by varying the number of fixed-length pulses as taught by *Weaver*, as opposed to varying the length of a single pulse, as *Naito* does, motivated by the teaching of *Weaver*. Claim 9 is therefore unpatentable.

Allowable Subject Matter

5. Claims 4 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the method of claim 1 with the additional limitation of claim 4 that the steps are executed simultaneously. Claim 4 would therefore be allowable if rewritten appropriately.

The prior art does not disclose the additional limitation of claim 6, that the colors are represented by wavelengths with the second wavelength longer than the first wavelength, since white is a spectrum of wavelengths and not a single wavelength.

Election/Restrictions

7. Applicant's election without traverse of Group I, claims 1-12, in Paper No. 8 is acknowledged.
8. Claims 13-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,103,431 to *Tamaoki et al.*, like U.S. Patent No. 6,197,460 to *Tamaoki et al.*, does not disclose two heatings in which the first temperature is higher than the second and the first time period is shorter than the second.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (703) 306-5801. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-4711 for regular communications and (703) 746-4711 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Andrew Schechter
July 31, 2003



TOANTON
PRIMARY EXAMINER